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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/090,163

03/05/2002

Shigeo Sakino

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EXAMINER

KIM, PETER B

ART UNIT

PAPER NUMBER

2851

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/090,163	Applicant(s) SAKINO, SHIGEO	
	Examiner Peter B. Kim	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :04/05/2002, 04/29/2002, 06/2002, 10/2002, 12/2003, 05/2004.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: On page 10 of the specification, it is stated that vacuum container is shown only in Fig. 8; however Fig. 8 does not show the vacuum container.

Appropriate correction is required.

Claim Objections

Claims 17, 18, and 20-24 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 17 is a device claim dependent on an apparatus claim. Claim 18 is a device claim dependent on a method claim. Claim 20 is a method claim dependent on an apparatus claim. Claim 23 claims a factory dependent on an apparatus claim. claim 24 is a maintenance method claim dependent on an apparatus claim.

Claim 12 is objected to because of the following informalities: Claim 12 is identical to claim 13. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

Art Unit: 2851

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17 and 18 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nishinaga (2003/0025890).

Nishinaga discloses a device (W) manufactured by an exposure apparatus comprising a moving/guide apparatus (40, 39, 38). Although the device of Nishinaga is not manufactured according to the method or the apparatus of the instant application, the final product appears to be either identical or only slightly different than which claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 9, 10, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP 11-297256) in view of Nakasuji et al. (Nakasuji) (2002/0148961).

Takahashi discloses an exposure apparatus, a method of manufacturing a semiconductor device, a moving/guiding apparatus and a moving/guiding method for a moving/guiding apparatus comprising a first movable body (8) which move in a first direction (x-direction), a second movable body (7) which moves in a second direction (y-direction) intersecting the first direction (Fig. 1 and 6), a third movable body (3) guided to be movable on a surface plate (1), and driven in the first and second directions by receiving forces from the first and the second

movable bodies (abstract), a first actuator (26) for driving the first movable body, and a second actuator (16) for driving the second movable body.

However, Takahashi does not disclose the first and second actuator arranged outside of a container which accommodates the first, second and third movable bodies. Nakasuji discloses accommodating the movable bodies (52, 53, 54, 55, W) in a vacuum container (32, 31) wherein the actuators (531, 532) to drive the movable bodies are arranged outside of the container. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vacuum container of Nakasuji to the invention of the Takahashi and to arrange the actuators outside of the container in order to prevent any contamination of the wafer on the movable body as taught by Nakasuji in para 0138 and para 0149.

Claims 3, 4, 8, 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Nakasuji et al. as applied to claims 1 and 9 above, and further in view of Sakino et al. (Sakino) (5,040,431).

The further difference between the claimed invention and the modified Takahashi is the first, second third and fourth bearing. Sakino discloses a moving/guiding apparatus and method comprising first and second bearings (3c, 3b) for one side of the first and second movable body, and restraining the movable bodies at least in vertical and horizontal directions, and third and fourth bearings (3c, 3b, see Fig. 2-4) for the other side of the first and second movable body. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the bearings of Sakino to the modified Takahashi in order to move and guide the movable bodies as taught by Sakino in the abstract.

Claims 5, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Nakasuji et al. as applied to claims 1 and 9 above, and further in view of Asano (6,442,858).

The further difference between the modified Takahashi and the claimed invention is the stating pressure bearing for guiding the first, second and third movable bodies. Asano discloses static pressure bearing for guiding movable bodies (col. 8, lines 46-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the static pressure bearing to the modified Takahashi in order to guide and move the movable bodies as taught by Asano.

Claims 6 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Nakasuji et al. as applied to claims 1 and 9 above, and further in view of Chang et al. (Chang) (6,457,864).

The further difference between the modified Takahashi and the claimed invention is the actuators which are ultrasonic linear motors. Chang discloses using ultrasonic linear motors to drive stages (col. 1, line 26 – col. 2, line 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the ultrasonic motors of Chang to the modified Takahashi in order to provide high precision movements.

Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Nakasuji et al. as applied to claims 1 and 9 above, and further in view of Matsushita et al. (Matsushita) (JP 63-192864).

The further difference between the modified Takahashi and the claimed invention is a seal for sealing the rigid body (Takahashi, Fig. 6 and 7) and the vacuum container with a labyrinth seal structure. Matsushita discloses a labyrinth seal structure for movable parts and to maintain lubricity and air-tightness (abstract, Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the seal structure of Matsushita to the modified Takahashi in order to maintain air-tightness and to prevent damage to the rigid body.

Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Nakasuji et al. as applied to claim 1 above, and further in view of Sasao et al. (Sasao) (6,454,177).

The further difference between the modified Takahashi and the claimed invention is the connecting a group of apparatuses through a local network and communicating information between the local network and an external network outside the semiconductor manufacturing factory. Sasao discloses a network for connecting a group of apparatus and factory with local and external networks (col. 4, line 65 – col. 5, line 38). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the network of Sasao to the modified Takahashi in order to obtain an effective control of the apparatuses.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 9:00 AM - 5:30 PM.

Art Unit: 2851

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter B. Kim/
Primary Examiner, Art Unit 2851

March 30, 2008